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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,982	03/31/2005	Jonathan L Weber	20020045	2275

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EXAMINER

RATCLIFFE, LUKE D

ART UNIT

PAPER NUMBER

3662

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/529,982	<b>Applicant(s)</b> WEBER, JONATHAN L	
	<b>Examiner</b> Luke D. Ratcliffe	<b>Art Unit</b> 3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2005.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1, 2, 6, and 7 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Allen (6392747).**

Referring to **claim 1**, Allen shows a method for determining the presence of a missile seeker including projecting ultra short laser pulses towards a search area (figure 1 Ref 12), detecting the returns from the search area with a focal plane array (figure 2 Ref 31), each of the photodetector of the array having a threshold circuit coupled to the output (figure 4 Ref 56), directly reading out each of the photo detectors (figure 4 Ref 42, 48, and 50), and determining from the readout that there is a return from a missile seeker (figure 4 Ref 56 and column 2 and 3).

Referring to **claim 2**, Allen shows filtering out signals that exceed the threshold but persist beyond the interpulse spacing time (figure 3).

Referring to **claim 6**, Allen shows a focal plane array with an array of photodetectors (figure 2 Ref 31), and a demultiplexing circuit for directly reading out the threshold circuits (figure 4 Ref 56 and column 8 lines 25-40).

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Referring to **claim 7**, Allen shows a detector element in a focal plane array comprising a photodetector (figure 2 Ref 31), a threshold circuit coupled to the photodetector (figure 3 and 4), and a filter coupled to the threshold circuit (figure 4 Ref 52). Note that the ignoring an output from said photodetector exceeding predetermined time duration is intended use of the filter.

**Claim 12 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Leonard (6137566).**

Leonard shows a focal point plane array architecture comprising a photon detector and threshold circuit for each pixel (figures 2 and 8), an ultra fast frame readout is inherent with ultra fast beam exposure (column 1 line 23-49), a means to discriminate against compact targets (figure 3 and column 2-5), and a means coupled to the inherent discrimination for programmable range gating (columns 1-4 and 7-12).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allen (6392747).**

Allen shows filtering out signals that exceed the threshold but persist beyond the interpulse spacing time (figure 3). Allen does not specifically show

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an RC filter however it is a common type of filter and adds no new or unexpected results

**Claims 3, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen (6392747) in view of Brown (4651332).**

Referring to **claim 3**, Allen shows filtering out signals that exceed the threshold but persist beyond the interpulse spacing time (figure 3). However Allen does not show a NAND gate having one input thereto coupled to the output of the threshold circuit and the other input thereto coupled to a delayed version of the output of the threshold circuit.

Brown does show a NAND gate having one input thereto coupled to the output of the threshold circuit and the other input thereto coupled to a delayed version of the output of the threshold circuit (figure 4). It would have been obvious to modify Allen to include the NAND gate taught by Brown because this helps to filter out ground noise.

Referring to **claim 10**, Allen shows a detector element in a focal plane array comprising a photodetector (figure 2 Ref 31), a threshold circuit coupled to the photodetector (figure 3 and 4), and a filter coupled to the threshold circuit (figure 4 Ref 52). Note that the ignoring an output from said photodetector exceeding a predetermined time duration is intended use of the filter. However Allen does not show a NAND gate having one input thereto coupled to the output of the threshold circuit and the other input thereto coupled to a delayed version of the output of the threshold circuit

Brown does show a NAND gate having one input thereto coupled to the output of the threshold circuit and the other input thereto coupled to a delayed version of the output of the threshold circuit (figure 4). It would have been obvious to modify Allen to include the NAND gate taught by Brown because this helps to filter out ground noise.

Referring to **claim 11**, it is inherent that the delay circuit must delay the output of the threshold detector in the nanosecond range because that is the time duration of the laser pulses.

**Claims 4, 5, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen (6392747) in view of Leonard (6137566).**

Referring to **claim 4**, Allen shows a method for determining the presence of a missile seeker including projecting ultra short laser pulses towards a search area (figure 1 Ref 12), detecting the returns from the search area with a focal plane array (figure 2 Ref 31, each of the photodetector of the array having a threshold circuit coupled to the output (figure 4 Ref 56), directly reading out each of the photo detectors (figure 4 Ref 42, 48, and 50), and determining from the readout that there is a return from a missile seeker (figure 4 Ref 56 and column 2 and 3). However Allen does not specify ultrashort laser pulses are nanoseconds in length.

Leonard does show a method for determining the presence of a missile seeker with laser pulses that are nanoseconds in length (column 1 line 23-49).

Referring to **claim 5**, it is inherent that a small number of outputs would not be a target and they would get thrown out.

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Referring to **claim 9**, Allen shows filtering out signals which exceed the threshold but persist beyond than a predetermined time (figure 3). Allen does not specifically show an RC filter however it is a common type of filter and adds no new or unexpected results. Allen does not specify that the predetermined time is in the nanosecond range.


Leonard does show laser pulses that are nanoseconds in length and with the combination of Allen and Leonard it would be obvious that the predetermined time would also be in the nanosecond range.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luke D. Ratcliffe whose telephone number is 571-272-3110. The examiner can normally be reached on 8:00-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LDR

  
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